

1 Attorney Docket No. 82828

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3 NON-CONTACT WAVEFORM MONITOR

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5 ABSTRACT OF THE DISCLOSURE

6 A non-contact method and apparatus for continuously
7 monitoring a physiological event in a human or animal, such as
8 blood pressure, which involves utilizing a laser-based
9 interferometer system to produce a waveform that is
10 representative of continuous blood pressure in a subject. The
11 invention may preferably utilize a laser Doppler vibrometer which
12 is oriented to produce a laser beam directed toward the subject
13 substantially perpendicular to a skin surface of the subject
14 wherein the skin surface is moveable in response to blood
15 pressure. The vibrometer is sensitive to motion of the skin
16 surface in a direction parallel to the laser beam and produces a
17 signal representative of this motion. By plotting the velocity
18 of the skin surface movement in the direction parallel to the
19 laser beam with respect to time, a waveform is produced that has
20 been found to be representative of the blood pressure waveform
21 and highly defined to thereby permit accurate timing analysis
22 thereof relating to cardiac cycles.